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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/802,188	03/08/2001	Kazuhiko Takaishi	3408.65 517	5899

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EXAMINER

DAVIDSON, DAN

ART UNIT

PAPER NUMBER

2651

DATE MAILED: 04/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/802,188

Applicant(s)

TAKAISHI, KAZUHIKO

Examiner

Dan I Davidson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because:
  - (a) Fig. 3 incorrectly depicts the "PosA" bursts.
  - (b) the second block of Figure 4 should read --Read servo gate discrepancy time Ta between reference head and present head--.
  - (c) the third block of Figure 4 should read --Read servo gate discrepancy time Tb between reference head and switched head--.
  - (d) the last block of Figure 4 has a misspelling. It should read --End of switching process--.
  - (e) the second block of Figure 8 should read --Read servo gate discrepancy time Tb between reference head and switched head--.
  - (f) the third block of Figure 8 should read --Read servo gate discrepancy time Tb between reference head and switched head--.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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3. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner does not understand the phrase "time read by the head" in claim 4, lines 3-4, since the timing information is read from a memory as described later in the claim.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1-3, 5-10, 12, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Tigner (6,208,480 B1).

Re claims 1 and 8; Tigner discloses a head positioning control method for a storage disk device (col. 2, lines 45-47) which comprises: storage disks storing position signals (col. 2, lines 40-42); a plurality of heads that read information from the storage

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disks (col. 2, lines 38-39); an actuator that moves the heads (col. 2, lines 33-36); and a control circuit that positions the heads based on the position signal read from the storage disk using a selected head (Fig. 1, 160, 125), the method comprising: a step of synchronizing a time of a detection signal (servo gate signal) for detecting the position signal with a time of the position signal read by a head to which switching is directed, in response to a head switching cue (col. 5, lines 9-18; through determining an expected offset time between a periodic Ref-SGATE signal and a timing mark detection on a medium, we are able to know start of a servo area on the medium and thus the time at which to read the position information); and a step for reading the position signal for the head in response to the synchronized detection signal and positioning the head according to the read position signal (col. 2, lines 42-47; rotational position reference as determined by the synchronized detection signal is determined from FRAME OFFSET).

Re claims 2-3 and 9-10; Tigner discloses that the synchronizing step comprises: a step of determining a time at which the head to which the switching is directed reads the position signal, the time of a value greater than one sample period for the positioning control (col. 6, lines 5-8); and a step of synchronizing the time of the detection signal with the determined time (col. 6, lines 10-13).

Re claims 5 and 12; the limitations drawn to determining the time difference between the detection time of the position signal from which the switching originates and the detection time of the position signal for the head to which the switching is directed and time-shifting the detection (synchronization) signal in response is implicitly

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satisfied by loading a new FRAME OFFSET value when switching heads (discussed above; see col. 5, lines 61-65; see col. 6, lines 10-13).

Re claims 6 and 13; the limitations at this claim are as well implicitly satisfied in that determination of a detection time of the original head or the head to which the switching is directed is accomplished when reading or writing information to the respective original head or head to which the switching is directed. The final limitation has been analyzed above with respect to claim 5.

Re claims 7 and 14; Tigner discloses calculating, in response to the head switching cue, the time difference between the detection time for the head from which the switching originates and the detection time for the head to which the switching is directed (this is determination of FRAME OFFSET); a step of determining whether or not the time difference is shorter than one sample interval (col. 6, lines 3-5; given that it is realized that SGATE skipped, it is obviously determined that the time difference is shorter than one sample interval); and a step of inhibiting positioning in response to the detection signal when the time difference is shorter than one sample interval (col. 6, line 7; first servo burst skipped).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 4, 11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tigner (6,208,480 B1).

Re claims 4 and 11 (claim 13 depends on claim 11); Tigner discloses that the time determining step includes a step for reading the time at which the head to which the switching is directed reads the data synchronization signal from a memory for storing the time at which the data synchronization signal for each head is read (col. 5, lines 61-66; it is inherent given that the FRAME OFFSET value is loaded that there be a memory from which the value is loaded).

Tigner, however, does not disclose that the memory stores the time at which the position signal for each head is read, or that the time at which the position signal for each head is read is read. However, there is no patentable distinction between a memory that stores a time for a data synchronization signal and a time for a position signal, since the time of the position signal is generally determined in the art from the time of the data synchronization signal. It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to store the position signal in memory instead of the data synchronization signal in Tigner; motivation being elimination of the mathematical step of determining the position signal from the synchronization signal.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan I Davidson whose telephone number is (703) 308-8535. The examiner can normally be reached on Monday-Friday from 8:30AM to 5:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R Hudspeth, can be reached on (703) 308-4825. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

**DID**

Dan I. Davidson  
April 15, 2002



DAVID HUDSPETH  
SUPERVISORY PATENT EXAMINER  
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